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8 **BEFORE THE**  
9 **CALIFORNIA STATE WATER RESOURCES CONTROL BOARD**

10 HEARING IN THE MATTER OF  
11 CALIFORNIA DEPARTMENT OF WATER  
12 RESOURCES AND UNITED STATES  
13 BUREAU OF RECLAMATION  
14 REQUEST FOR A CHANGE IN POINT OF  
15 DIVERSION FOR CALIFORNIA WATER  
16 FIX

17 REBUTTAL TESTIMONY OF  
18 CHRIS SHUTES  
19 ON PART 2 ISSUES:  
20 EFFECTS ON FISH AND WILDLIFE  
21 PUBLIC TRUST  
22 PUBLIC INTEREST

23 I, Chris Shutes, do hereby declare:

24 **I. Introduction**

25 I, Chris Shutes, work as a consultant to the California Sportfishing Protection Alliance  
26 (CSPA). My titles with CSPA are FERC Projects Director and Water Rights Advocate. My  
27 statement of qualifications is Exhibit CSPA-3.

28 The purpose of my rebuttal testimony in Part 2 of the Waterfix proceeding is to  
affirmatively provide a series of recommended permit terms that through their substance and  
their enforceability would provide greater assurance that the SWP and CVP with WaterFix  
facilities in place would be more likely to provide reasonable protection for fish.<sup>1</sup>

Petitioners Department of Water Resources (DWR) and Bureau of Reclamation (Bureau)  
have proposed few specific permit terms for their petitions for change in point of diversion to  
enable construction and operation of the California WaterFix.

<sup>1</sup> Recommendation of permit terms does not diminish the opposition of CSPA *et al.* to the WaterFix petitions.

1           Petitioners rely heavily on external documents as the source of potential conditions for  
2 their proposed projects. Among these external documents are State Water Resources Control  
3 Board Water Rights Decision 1641 (D-1641, Exhibit SWRCB-21); the biological opinions of  
4 the National Marine Fisheries Service (NMFS) and the U.S. Fish and Wildlife Service (FWS)  
5 for the operation of the SWP and CVP (Exhibits SWRCB-84 and SWRCB-87 respectively, as  
6 subsequently modified); the biological opinions of NMFS and FWS for WaterFix (Exhibits  
7 SWRCB-106 and SWRCB 105, respectively); and the Incidental Take Permit of the California  
8 Department of Fish and Wildlife (CDFW) for WaterFix (Exhibit SWRCB-107).

9           In addition, DWR and the Bureau propose that the State Water Board include adaptive  
10 management and real-time operations in the permits if granted. See petitioners' September 8,  
11 2017 "Response to the Hearing Officers' August 31, 2017 Ruling," Exhibit CSPA-256.

12           In addition to relying on external documents to condition the proposed changes to the  
13 permits of the SWP and CVP, DWR and the Bureau rely on modeling as the basis of opinions  
14 that WaterFix will reasonably protect fish. However, many of the modeling assumptions that  
15 form the basis of these opinions are not defined as actual operating rules that would enforceably  
16 constrain the operation of the SWP and CVP with WaterFix facilities in operation.

17           In my Part 2 direct testimony, I provided discussion of many substantive requirements for  
18 permit terms for WaterFix. In addition, I described the need for enforceability of permit terms  
19 by the State Water Board. I refer the parties to this hearing to that testimony (Exhibit CSPA-  
20 202-errata), and will not repeat it here.

## 21           **II. Summary of the testimony I will rebut, and citations from this testimony**

22           My Part 2 rebuttal testimony responds primarily to the testimony presented in the  
23 Department of Water Resources' (DWR) case-in-chief by Dr. Marin Greenwood (Exhibits  
24 DWR-1012 and DWR-1029) and by Dr. Richard Wilder (Exhibits DWR-1013-signed and  
25 DWR-1070). DWR's witnesses Dr. Marin Greenwood and Dr. Richard Wilder stated in their  
26 Part 2 testimony that the ensemble of conditions proposed by DWR and the Bureau would  
27 provide reasonable protection for Delta and upstream fisheries.  
28

1 Dr. Greenwood's Part 2 direct testimony (Exhibit DWR-1012) states that "existing  
2 reasonable protections" currently protect Delta smelt and longfin smelt,<sup>2</sup> as well as listed  
3 salmonids and green sturgeon,<sup>3</sup> in the Delta. Dr. Greenwood offers a series of opinions that  
4 maintaining these existing constraints, combined with the provisions in the NMFS and FWS  
5 BO's for WaterFix, the ITP and other proposed measures, including adaptive management and  
6 real-time operations, will "reasonably protect" or "provide reasonable protection for" Delta  
7 fishes. These fishes include Delta smelt and longfin smelt,<sup>4</sup> listed salmonids and green  
8 sturgeon,<sup>5</sup> and non-listed salmon, white sturgeon, and other "aquatic species of "primary  
9 management concern"<sup>6</sup> under California WaterFix.

10 Dr. Greenwood states: "The evidence that I present is based on effects analyses and other  
11 relevant information included in the 2016 FEIR/S, the BA, the ITP Application, BOs issued by  
12 the US Fish and Wildlife Service (USFWS) and the National Marine Fisheries Service (NMFS),  
13 the ITP and associated Findings of Fact under CEQA and CESA issued by CDFW, and other  
14 materials ...."<sup>7</sup> Dr. Greenwood clarified on cross-examination by Mr. Jackson: "And I would  
15 emphasize, our focus in all of these opinions is the incremental effect of the California WaterFix  
16 CWF H3+ relative to the project No Action Alternative." (HT, 2/28/18, p. 46:17-20)

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20 <sup>2</sup> Dr. Greenwood (DWR-1012) says that "existing reasonable protections" for longfin smelt and Delta smelt require pumping  
21 limitations in winter and spring at the south Delta facilities, p. 3:14-21; that CWF will maintain "existing reasonable  
22 protections" for longfin smelt and Delta smelt that prevent them from entrainment at the south Delta export facilities, p. 6:24-  
23 26;

24 <sup>3</sup> Dr. Greenwood (DWR-1012) says "existing reasonable protections" for listed salmonids and green sturgeon include  
25 preventing entrainment risk at the south Delta export facilities, p. 7:16-17

26 <sup>4</sup> Dr. Greenwood (DWR-1012) says the following measures under CWF will "reasonably protect" or "provide reasonable  
27 protection for" longfin smelt and Delta smelt: fish screens, p. 3:21-22; a "study program", p. 3:22-23; operational criteria and  
28 real-time operations, p. 4:7-8; fall protection of the low salinity zone, p. 4: 8-11; construction timing and practices, p. 4:18-  
25; spring outflow criteria for longfin smelt, p. 7:6-7.

26 <sup>5</sup> Dr. Greenwood (DWR-1012) says the following measures under CWF will "reasonably protect" or "provide reasonable  
27 protection for" listed salmonids and green sturgeon: construction timing and practices, p. 7:14-15; fish screens and studies, p.  
28 7:19-21; bypass flow requirements past the North Delta Diversion facilities, real-time operations, and mitigation, p. 7: 22-24;  
construction of Head of Old River Gate, p. 7:25-26 (any San Joaquin River salmonids); limit or mitigate "changes in habitat  
suitability", p. 7:27-28; "avoidance and minimization measures, conservation measures and recommendations, and  
operational criteria will reasonably protect" non-listed salmonids, p. 8:1-3

<sup>6</sup> Dr. Greenwood (DWR-1012) says, "avoidance and minimization measures, conservation measures and recommendations,  
and operational criteria generally will reasonably protect" other non-listed species, including striped bass, p. 8:8-11.

<sup>7</sup> *Id.*, p.5:9-13.

1 Dr. Wilder states in his Part 2 direct testimony (Exhibit DWR-1013-signed): “The results  
2 presented in this testimony indicate that, overall, upstream effects of CWF H3+ on winter-run  
3 and spring-run Chinook salmon, CCV steelhead, Green Sturgeon, and unlisted species of  
4 primary management concern are expected to be small to insignificant.”<sup>8</sup> “Upstream changes  
5 are primarily a result of reductions in the September and November flows under CWF H3+  
6 relative to the NAA, as modeled using CALSIM II.”<sup>9</sup> Dr. Wilder concludes that because  
7 upstream flow changes as modeled are “limited in timing and magnitude” and because real-time  
8 operations will improve, “CWF H3+ is reasonably protective of winter-run and spring-run  
9 Chinook salmon, CCV steelhead, Green Sturgeon, and unlisted species of primary management  
10 concern salmonids upstream of the Delta.”<sup>10</sup>

11 Similar to Dr. Greenwood, Dr. Wilder stated on cross-examination by Mr. Jackson: “No,  
12 I didn't assume anything related to NAA. It was simply a comparison of the NAA to the CWF  
13 H3+ and, as Dr. Greenwood said, looking at the incremental difference between the two.” (HT,  
14 2/28/18, p. 47:3-6)

### 15 **III. Proposed permit terms**

16 The proposed permit terms of CSPA *et al.*<sup>11</sup> are shown in Exhibit CSPA-502. The terms  
17 are shown in a table that show a number, the title or subject of the proposed term, the  
18 requirement, the compliance point or points, the season or seasons of applicability, and a brief  
19 rationale for the term. I am available to answer questions on cross-examination regarding this  
20 exhibit.

### 21 **IV. Additional declaration**

22 I assisted Tom Cannon in the development of his Part 2 rebuttal testimony, Exhibit  
23 CSPA-500. I made substantive recommendations and provided editorial and formatting  
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26 <sup>8</sup> DWR-1013-signed, p. 2: 8-11.

27 <sup>9</sup> *Id.*, p. 2:15-16.

28 <sup>10</sup> *Id.*, p. 2:26 to p. 3:2.

<sup>11</sup> CSPA *et al.* includes the California Sportfishing Protection Alliance, the California Water Impact Network (C-WIN), and AquAlliance.

1 assistance. I will be available to assist Mr. Cannon in responding to cross-examination on his  
2 Part 2 rebuttal testimony.

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4 Executed this 9th day of July, 2018 at Berkeley, California.

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